

Case 3071

***Osphronemus deissneri* Bleeker, 1859 (currently *Parosphromenus deissneri*; Osteichthyes, Perciformes): proposed replacement of holotype by a neotype**

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Abstract. The purpose of this application is to clarify the identity of *Osphronemus deissneri* Bleeker, 1859, the type species of *Parosphromenus* Bleeker, 1877, a genus of licorice gouramies from the freshwater and peat swamps of Southeast Asia important both in the aquarium trade and as environmental bioindicators. The holotype of *O. deissneri* is badly damaged and lacks the characters necessary for identification. It is proposed that it be replaced with a neotype in order to stabilise the taxonomy of *Parosphromenus*.

Keywords. Nomenclature; taxonomy; Osteichthyes; Perciformes; licorice gouramies; BELONTIIDAE; *Parosphromenus*; *Parosphromenus deissneri*.

1. In 1801 (p. 116), the nominal genus *Osphronemus* was established by Lacepède (spelt La Cepède in the publication) with two species, *O. goramy* (p. 116, pl. 8, fig. 2) and *O. gallus* (p. 116). *O. goramy* was subsequently designated as the type species by Bleeker (1879, pp. 16–17 — for date of publication see Lamme, 1975). Cuvier (1829, p. 228) referred to '*Osphromenus gourami* [sic]' Lacepède but he did not mention the original spelling *Osphronemus*, although two years later (Cuvier in Cuvier & Valenciennes, 1831, p. 377) he explained that the name 'osphromène' had been used by Commerson in an unpublished manuscript, and that Lacepède had published this name as 'osphronème'.

2. Bleeker (1859, p. 376) established the species *Osphromenus* [sic] *deissneri*, and in 1877 (pl. 395, caption of fig. 1) established the nominal genus *Parosphromenus*, with *Osphromenus deissneri* as type species by monotypy. This plate appeared in 1877 and predates the earliest description of *Parosphromenus* generally quoted in the literature, i.e. Bleeker, 1879, p. 19 (see Boeseman, 1983, p. 4).

3. The licorice gouramies of *Parosphromenus* are widely distributed in the freshwater and peat swamps of Southeast Asia, and 11 nominal species are now recognised (Kottelat, 1991; Kottelat et al., 1993). These fishes are important not only in the aquarium trade but also as environmental bioindicators (Ng, Tay & Lim, 1994). The taxonomy of species of *Parosphromenus* is difficult as there are very few

morphological or meristic characters which can be used to separate taxa. Adult male specimens are necessary before most of the species can be identified with certainty, and even then they must be well preserved and ideally their live colours indicated. The useful diagnostic features are characters such as the structure of the paired and unpaired fins, the body and fin colouration and the colour patterning; these characters are discernible only in well preserved material. Many of the older specimens attributed to species of *Parosphromenus* are poorly preserved, being twisted, shrunken and/or dried, with their fin rays badly damaged and often frayed or broken. *Parosphromenus* species are typically in the size range 15–20 mm in standard length, and need to be preserved carefully if good specimens are to be obtained for study or long-term curation. Furthermore, several nominal species have been poorly described, with vague and imprecise type localities and ambiguously designated type material (see Schaller & Kottelat, 1989).

4. Although the species *Parosphromenus deissneri* has been reported frequently in scientific and popular literature, the actual identity of the species has only very recently been clarified (Kottelat & Ng, 1998). We have been aware for some time that several conspicuously different species have been identified as '*P. deissneri*' by a number of authors, including ourselves. *Parosphromenus deissneri* was originally described by Bleeker from a single specimen reportedly 34 mm in total length from the island of Banka (now Bangka), off eastern Sumatra, Indonesia. The species has not until recently been reported from Bangka since its original discovery, and nothing was known about it except from Bleeker's papers. Bleeker's figure (1877, pl. 395, fig. 1) of the species is schematic and apparently full-size, and appears to depict a large female. The colours are faded and not useful except for confirming the generic identification of recent material, since preserved females of nearly all species of *Parosphromenus* have the same colour pattern. It cannot be determined whether the colour was based on a fresh or preserved specimen and whether it was accurate.

5. We recently obtained fresh material of *Parosphromenus* from various localities on Bangka, including Sungai Baturussa, the stream running through Baturussa which is the type locality of *Parosphromenus deissneri*. Our study of this material shows that two species occur on Bangka, the adult males of each being distinguished by the form of their caudal fins and live colouration. The presence or absence of a filamentous median caudal-fin ray allows us to identify large adults of both sexes. One of the two species is certainly *Parosphromenus deissneri* and we have described the second as a new species, *P. bintan* (Kottelat & Ng, 1998, p. 265, fig. 3). Although the two species were not collected together, the close proximity of their localities (only a few kilometres apart) suggests that both species will probably be found together once more detailed sampling is conducted throughout the island.

6. Examination of the holotype of *Parosphromenus deissneri* in the Nationaal Natuurhistorisch Museum in Leiden shows that it is completely discoloured and in relatively poor condition, being shrunken and with all its fins damaged; the taxonomically important caudal fin is completely missing. The condition of the caudal fin and its rays was not described by Bleeker and cannot be determined with certainty from his 1877 figure (pl. 395, fig. 1). One interpretation of this figure is that it is accurate and shows the median caudal-fin ray unbranched and somewhat narrower than the others. Alternatively, the figure is not accurate and the other rays, while appearing thicker, are not depicted as being branched, which

they should be. Our conclusion is that the holotype of *Parosphromenus deissneri* possesses no characters by which it can be identified with any of the known species of the genus.

7. We are currently completing a revisionary study of the genus, in which the identities of three poorly known species are to be clarified and at least six new species described. All, at some time or another, have been called '*Parosphromenus deissneri*'. In addition, we have obtained specimens of the second Bangka species (*P. bintan*) from Pulau Bintan in the Riau Archipelago, this species being the subject of conservation efforts (Kottelat & Ng, 1998). Our revisionary study is hindered by the absence of a usable type specimen for *Parosphromenus deissneri*. As pointed out in para. 6 above the extant holotype possesses no useful characters, and could belong to *P. bintan* or even to any of the other taxa from nearby islands. Considering the confused taxonomic history of the group, we believe that continued uncertainty about the holotype of *Parosphromenus deissneri* would pose serious problems for future systematic and biological studies on the genus and its members.

8. To ensure taxonomic stability in the genus and its type species we propose under Article 75b(iii) and Recommendation 75E of the Code the designation of an intact fresh specimen as neotype to replace the damaged and unusable holotype of *Parosphromenus deissneri*. The original type locality, Baturussa, is now a small city where no suitable habitat containing this species could be found. However, the proposed neotype comes from very near the original type locality, and certainly from the same hydrographic basin. The proposed neotype is a male specimen (20.2 mm standard length, 27.1 mm total length), collected on 6 March 1993 by M. Kottelat, N. Sivasothi and T. Tan, from Sungai Baturussa basin, 8 km from Pudingbesar on the road to Kampong Simpan, in Bangka. It is deposited in the Zoological Reference Collection (ZRC), National University of Singapore, under the catalogue number ZRC 31377. Colour photographs of the freshly preserved proposed neotype of *P. deissneri* are published in Kottelat & Ng (1998, p. 265, fig. 3) as well as of live male and female specimens of both that species and *P. bintan*.

9. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary powers to set aside all previous fixations of type specimens for the nominal species *Osphronemus deissneri* Bleeker, 1859 and to designate as neotype the specimen ZRC 31377 in the National University of Singapore;
- (2) to place on the Official List of Specific Names in Zoology the name *deissneri* Bleeker, 1859, as published in the binomen *Osphronemus* [sic] *deissneri* and as defined by the neotype designated in (1) above (specific name of the type species of *Parosphromenus* Bleeker, 1877).

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Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o The Natural History Museum, Cromwell Road, London SW7 5BD (e-mail: iczn@nhm.ac.uk).